

Applicants: Ulrich Laemmli and Samuël Jaïnssen
Serial No.: 09/903,359
Filed : July 11, 2001
Page : 3

In The Claims

Please cancel Claims 80 and 85 without prejudice or disclaimer of the subject matter contained therein.

Please amend the following Claims:

1. (Currently Amended) A DNA-binding molecule ~~capable of sequence specific binding~~ which binds specifically to a minor groove of double-stranded DNA, ~~characterized in that it comprises~~ comprising at least two sequence specific DNA-binding elements, covalently linked to each other in tandem orientation by an amphipathic, flexible linker molecule, wherein at least one of said DNA binding elements is ~~being~~ non-proteinaceous.
2. (Currently Amended) The DNA-binding molecule according to claim 1 wherein at least one of the DNA-binding elements comprises an oligomer comprising one or more organic heterocyclic amino-acid residues.
3. (Currently Amended) The DNA-binding molecule according to claim 2 wherein each organic heterocyclic residue has at least one annular nitrogen, sulphur or oxygen.
4. (Currently Amended) The DNA-binding molecule according to claim 2, wherein said heterocyclic residue is chosen from pyrrole, imidazole, triazole, pyrazole, furan, thiazole, thiophene, oxazole, pyridine, or and ~~derivatives of any one of these compounds wherein one or more of the heteroatoms are having one or more substituted heteroatoms by a substituent which is DNA-binding or non-DNA binding.~~
5. (Currently Amended) The DNA-binding molecule according to claim 4, wherein ~~at least one oligomer includes~~ said

Applicants: Ulrich Laemmli and Samuel Janssen
Serial No.: 09/903,359
Filed : July 11, 2001
Page : 4

heterocyclic residues are chosen from the group
consisting of N-methylpyrrole (PY), ~~and/or~~ 3-hydroxy N-
methylpyrrole (HP) ~~and/or~~ N-methylimidazole.

51. (Currently Amended) ~~A Process~~ process for binding double-stranded DNA in a sequence-specific manner, comprising contacting a DNA-target sequence within said DNA with a DNA-binding molecule according to claim 1, in conditions allowing said binding to occur.
52. (Currently Amended) ~~Process~~ The process according to claim 51 which is carried out *in vivo*, *in vitro* or *ex vivo*.
53. (Currently Amended) ~~Process~~ The process according to claim 52 which is carried out in a cell.
54. (Currently Amended) ~~Process~~ The process according to claim 53, wherein said cell is eukaryotic.
55. (Currently Amended) ~~Process~~ The process according to claim 53, wherein said cell is prokaryotic.
56. (Currently Amended) ~~Process~~ The process according to claim 54, wherein said cell is a vertebrate cell, an invertebrate cell, a plant cell.
57. (Currently Amended) ~~Process~~ The process according to claim 54, wherein said cell is a mammalian cell, an insect cell, or a yeast cell.
69. (Currently Amended) ~~A Process~~ process for modulating chromosome function in a eukaryotic cell, comprising the step of contacting a genomic DNA element comprising a binding site mediating chromosome function, with a molecule according claim 1 and ~~having the capacity to bind~~ which binds in a sequence-

Applicants: Ulrich Laemmli and Samuel Jaénssen
Serial No.: 09/903,359
Filed : July 11, 2001
Page : 5

specific manner to said element, said step of contacting being carried out in conditions permitting binding of said ~~compound~~ molecule to said element, wherein the binding modulates chromosome function.

70. (Currently Amended) A process for modulating the function of a DNA element in a eukaryotic cell, comprising the step of contacting a genomic DNA ~~element so-called~~ <<chromatin responsive element>> (CRE), with a molecule according to claim 1 and ~~having the capacity to~~ which binds in a sequence-specific manner to said CRE, said step of contacting being carried out in conditions permitting chromatin remodeling of the CRE by said molecule ~~compound~~, wherein said chromatin remodeling of the CRE alters the activity of one or more other modulated DNA elements ~~, so-called <<modulated DNA elements>>~~ in the genome.

71. (Currently Amended) A Cell cell containing a ~~compound~~ DNA-binding molecule according to any one of claims 1 to 50 5.

72. (Currently Amended) The Cell cell according to Claim 71, wherein said ~~compound~~ DNA-binding molecule binds the DNA-minor groove.

79. (Currently Amended) A Pharmaceutical pharmaceutical composition comprising a ~~compound~~ the DNA-binding molecule according to claim 1 in association with a physiologically acceptable excipient.

80. Cancelled

81. (Currently Amended) A DNA-binding molecule ~~Compound~~ according to claim 1 which is fluorescent or fluorescently labeled.

Applicants: Ulrich Laemmli and Samuel Janssen
Serial No.: 09/903,359
Filed : July 11, 2001
Page : 6

82. (Currently Amended) The DNA-binding molecule Compound according to Claim 81, wherein the fluorescent label is a fluorescent dye ~~such as~~ selected from the group consisting of fluorescein, dansyl, Texas red, isosulfan blue, ethyl red, malachite green, rhodamine and cyanine dyes.

85. Cancelled

Please add new claim 86 as follows:

86. (New) A method of treating genetic disorders, said method comprising administering to a subject in need of such treatment a pharmaceutically acceptable amount of the pharmaceutical composition of claim 79.